

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1 - 18. (canceled)

19. (previously presented): A mobile communication system, comprising:
a mobile terminal unit;

a radio base station which communicates with said mobile terminal unit via a radio channel;

a radio controller which controls said radio base station and is physically separated into user plane equipment, which controls transfer of user data between a first network and the mobile terminal unit, and control plane equipment, which controls transfer of signaling between the first network and the mobile terminal unit so that the signaling is not transferred through the user plane equipment; and

a radio base station replacement control apparatus which controls replacement of said radio base station,

wherein the mobile terminal is handed over from the radio base station to another radio base station, controlled by a drift radio controller, without establishing a path between the radio controller and the drift radio controller.

20. (previously presented): A mobile communication system, comprising:
a mobile terminal unit;

a first radio base station which communicates with said mobile terminal unit via a radio channel;

a first radio controller which controls said first radio base station and is physically separated into first control plane equipment for performing control independent of a radio

transmission scheme and first user plane equipment for performing control depending on the radio transmission scheme, between a first network and the mobile terminal unit;

a second radio controller which controls a second radio base station and is physically separated into second control plane equipment which performs control independent of the radio transmission scheme and second user plane equipment which performs control dependent on the radio transmission scheme; and

a radio base station replacement control apparatus which controls replacement of said first radio base station,

wherein the first control plane equipment and the first user plane equipment are adapted to be connected across a second network,

wherein the mobile terminal unit is handed over from the first radio base station to the second radio base station, without establishing a path between the first radio controller and the second radio controller and wherein the second control plane equipment performs control independent of the radio transmission scheme and the second user plane equipment performs control dependent on the radio transmission scheme between the first network and the mobile terminal after a handover.

21. (previously presented): A mobile communication system comprising:

a mobile terminal unit;

a radio base station which communicates with said mobile terminal unit via a radio channel;

a radio controller which controls said radio base station and is physically separated into control plane equipment for controlling transfer of signaling and user plane equipment for controlling transfer of user data, said user plane equipment performing control depending on a radio transmission scheme, wherein the control plane equipment controls the transfer of signaling between a first network and the mobile terminal unit so that the signaling is not transferred through the user plane equipment; and

a radio base station replacement control apparatus provided physically independently of the control plane equipment and the user plane equipment, which radio base station replacement

control apparatus controls replacement of said radio base station with one of other radio base stations being controlled by the radio controller or by other radio controllers.

22. (previously presented): A mobile communication system, comprising:
a mobile terminal unit;
a radio base station which communicates with said mobile terminal unit via a radio channel; and
a radio controller which controls said radio base station and is physically separated into control plane equipment for controlling a terminal resource of said mobile terminal unit and user plane equipment for accommodating said radio base station and controlling a base station resource of said radio base station,
wherein the user plane equipment is incorporated into the radio base station,
wherein replacement of said radio base station in communication with the mobile terminal unit with another radio base station is controlled by a user data selector and synthesizer unit incorporated into the radio base station.

23. (previously presented): The mobile communication system according to claim 19, further comprising:
a second network, wherein control plane equipment and said user plane equipment are connected across the second network.

24. (previously presented): The mobile communication system according to claim 19, wherein said radio base station replacement control apparatus comprises means for notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of the user plane equipment which is to newly accommodate said radio base station.

25. (previously presented): The mobile communication system according to claim 24, wherein said radio base station replacement control apparatus further comprises

means for notifying said control plane equipment of identification information of said radio base station as an object of replacement and identification information of said user plane equipment as an accommodation destination.

26. (previously presented): A radio base station replacement control apparatus which controls replacement of a radio base station in a mobile communication system, the radio base station replacement control apparatus comprising:

a database search unit for searching a database for storing information regarding radio base stations being controlled by a plurality of radio controllers; and

a cell setting change designation unit for concentrically controlling a rearrangement of the radio base stations,

wherein the mobile communication system includes:

a mobile terminal unit, said radio base station communicates with said mobile terminal unit via a radio channel, and

a radio controller which controls said radio base station, and is physically separated into control plane equipment for controlling transfer of signaling and user plane equipment for accommodating said radio base station under the control and controlling transfer of user data, wherein the control plane equipment controls the transfer of signaling between a first network and the mobile terminal unit so that the signaling is not transferred through the user plane equipment; and

wherein said control plane equipment and said user plane equipment are physically independent of each other.

27. (previously presented): A radio base station replacement control apparatus which controls replacement of a radio base station in a mobile communication system, the radio base station replacement control apparatus comprising:

a database search unit for searching a database for storing information regarding radio base stations being controlled by a plurality of radio controllers; and

a cell setting change designation unit for concentrically controlling a rearrangement of the radio base stations,

wherein the mobile communication system includes:

a mobile terminal unit, wherein said radio base station communicates with said mobile terminal unit via a radio channel, and

a first radio controller which controls said radio base station, and is physically separated into first control plane equipment for performing control independent of a radio transmission scheme between a first network and the mobile terminal unit and first user plane equipment for accommodating said radio base station under the control and performing control depending on a radio transmission scheme, between the first network and the mobile terminal unit, wherein said first control plane equipment and said first user plane equipment are physically independent of each other; and

a second radio controller which controls another radio base station and is physically separated into second control plane equipment which performs control independent of the radio transmission scheme and second user plane equipment which performs control dependent on the radio transmission scheme,

wherein the mobile terminal unit is handed over from the radio base station to the another radio base station, without establishing a path between the first radio controller and the second radio controller and wherein the second control plane equipment performs control independent of the radio transmission scheme and second user plane equipment performs control dependent on the radio transmission scheme between the first network and the mobile terminal after a handover.

28. (previously presented): A radio base station replacement control apparatus which controls replacement of a radio base station in a mobile communication system, the radio base station replacement control apparatus comprising:

a database search unit for searching a database for storing information regarding radio base stations being controlled by a plurality of radio controllers; and

a cell setting change designation unit for concentrically controlling a rearrangement of the radio base stations,

wherein the mobile communication system includes:

a mobile terminal unit, wherein said radio base station communicates with said mobile terminal unit via a radio channel, and

a radio controller which controls said radio base station, and is physically separated into control plane equipment for controlling transfer of signaling and user plane equipment for accommodating said radio base station under the control and controlling transfer of user data, said user plane equipment performing control depending on a radio transmission scheme, wherein the control plane equipment controls the transfer of signaling between a first network and the mobile terminal unit so that the signaling is not transferred through the user plane equipment; and

wherein said control plane equipment and said user plane equipment are physically independent of each other.

29. (previously presented): A radio base station replacement control apparatus which controls replacement of a radio base station in a mobile communication system, the radio base station replacement control apparatus comprising:

a database search unit for searching a database for storing information regarding radio base stations being controlled by a plurality of radio controllers; and

a cell setting change designation unit for concentrically controlling a rearrangement of the radio base stations,

wherein the mobile communication system includes:

a mobile terminal unit, wherein said radio base station communicates with said mobile terminal unit via a radio channel, and

a first radio controller which controls said radio base station, and is physically separated into first control plane equipment for controlling a first terminal resource control unit and first user plane equipment for accommodating said radio base station under the control and controlling a first base station resource control unit, wherein said first control plane equipment and said first user plane equipment are physically independent of each other; and

a second radio controller which controls another radio base station and is physically separated into second control plane equipment for controlling a second

terminal resource control unit and second user plane equipment for controlling a second base station resource control unit,

wherein the mobile terminal unit is handed over from the radio base station to the another radio base station, without establishing a path between the first radio controller and the second radio controller and wherein the second control plane equipment controls the second terminal resource control unit and the second user plane equipment controls the second base station resource control unit after a handover.

30. (previously presented): The radio base station replacement control apparatus according to claim 26, wherein said control plane equipment and said user plane equipment are connected across a second network.

31. (previously presented): The radio base station replacement control apparatus according to claim 26, further comprising means for notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of the user plane equipment which is to newly accommodate said radio base station.

32. (previously presented): The radio base station replacement control apparatus according to claim 31, further comprising means for notifying said control plane equipment of identification information of said radio base station as an object of replacement and identification information of said user plane equipment as an accommodation destination.

33. (previously presented): A radio base station replacement control method in a communication system, the communication system including:

a mobile terminal unit,

a radio base station which communicates with the mobile terminal unit via a radio channel,

a radio controller which controls the radio base station, and is physically separated into control plane equipment for controlling transfer of signaling and user plane equipment for accommodating the radio base station under the control and controlling

transfer of user data, wherein the control plane equipment controls the transfer of signaling between a core network and the mobile terminal unit so that the signaling is not transferred through the user plane equipment; and

a radio base station replacement control apparatus which is provided physically independently of the control plane equipment and the user plane equipment and controls replacement of the radio base station with other radio base stations being controlled by the radio controller or by other radio controllers,

the radio base station replacement control method comprising:

notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of the user plane equipment which is to newly accommodate the radio base station.

34. (previously presented): The radio base station replacement control method according to claim 33, the radio base station replacement control method further comprising:

notifying the control plane equipment of identification information of the radio base station as an object of replacement and identification information of the user plane equipment as an accommodation destination.

35. (previously presented): A computer readable medium having recorded thereon a program for causing a computer to execute a radio base station replacement control method in a communication system, the communication system including:

a mobile terminal unit in which a calling process and a Node b utilized for cell setting are controlled by the same protocol architecture,

a radio base station which communicates with the mobile terminal unit via a radio channel,

a radio controller which controls the radio base station, and is physically separated into control plane equipment for controlling transfer of signaling and user plane equipment for accommodating the radio base station under the control and controlling transfer of user data, wherein the control plane equipment controls the transfer of signaling between a core network

and the mobile terminal unit so that the signaling is not transferred through the user plane equipment; and

a radio base station replacement control apparatus which is provided physically independently of the control plane equipment and the user plane equipment and controls replacement of the radio base station,
the program, when executed by a computer, performing operations comprising:

notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of the user plane equipment which is to newly accommodate the radio base station.

36. (previously presented): The computer readable medium according to claim 35, wherein the operations further comprise:

notifying the control plane equipment of identification information of the radio base station as an object of replacement and identification information of the user plane equipment as an accommodation destination.

37. (previously presented): The mobile communication system according to claim 20, wherein the second network connects said first control plane equipment, said first user plane equipment, and radio base station replacement control apparatus.

38. (previously presented): The mobile communication system according to claim 21, further comprising a second network which connects said control plane equipment, said user plane equipment, and radio base station replacement control apparatus.

39. (previously presented): The mobile communication system according to claim 22, further comprising a network which connects said control plane equipment, said user plane equipment, and radio base station replacement control apparatus.

40. (previously presented): The mobile communication system according to claim 20, wherein said radio base station replacement control apparatus comprises means for notifying, in

response to an external trigger, a radio base station as an object of replacement of identification information of said user plane equipment which is to newly accommodate said radio base station.

41. (previously presented): The mobile communication system according to claim 21, wherein said radio base station replacement control apparatus comprises means for notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of said user plane equipment which is to newly accommodate said radio base station.

42. (previously presented): The mobile communication system according to claim 22, wherein said radio base station replacement control apparatus comprises means for notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of said user plane equipment which is to newly accommodate said radio base station.

43. (previously presented): The mobile communication system according to claim 23, wherein said radio base station replacement control apparatus comprises means for notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of said user plane equipment which is to newly accommodate said radio base station.

44. (previously presented): The radio base station replacement control apparatus according to claim 27, wherein said first control plane equipment and said first user plane equipment are connected across a second network.

45. (previously presented): The radio base station replacement control apparatus according to claim 28, wherein said control plane equipment and said user plane equipment are connected across a second network.

46. (previously presented): The radio base station replacement control apparatus according to claim 29, wherein said first control plane equipment and said first user plane equipment are connected across a second network.

47. (previously presented): The radio base station replacement control apparatus according to claim 27, further comprising means for notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of the user plane equipment which is to newly accommodate said radio base station.

48. (previously presented): The radio base station replacement control apparatus according to claim 28, further comprising means for notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of the user plane equipment which is to newly accommodate said radio base station.

49. (previously presented): The radio base station replacement control apparatus according to claim 29, further comprising means for notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of the user plane equipment which is to newly accommodate said radio base station.

50. (previously presented): The radio base station replacement control apparatus according to claim 30, further comprising means for notifying, in response to an external trigger, a radio base station as an object of replacement of identification information of the user plane equipment which is to newly accommodate said radio base station.

51. (currently amended): A system comprising:
means for communicating between a radio base station and a mobile terminal unit via a radio channel;

means for controlling the radio base station and physically separated into first control means for controlling transfer of signaling and second control means for controlling transfer of user data, wherein the ~~control-plane equipment~~ first control means controls the transfer of signaling from a core network to the mobile terminal unit so that the signaling is not transferred through the ~~user-plane equipment~~ second control means; and

means for controlling replacement of the radio base station by another radio base station,

wherein the mobile terminal unit is handed over from the radio base station to the another radio base station by a means for drift radio controlling, without establishing a path between the means for controlling the radio base station and the means for drift radio controlling.

52. (previously presented): A mobile communication system, comprising:

a radio controller which controls a first radio base station in communication with a mobile terminal unit via a radio channel, the radio controller being physically separated into control plane equipment for controlling transfer of signaling and user plane equipment for controlling transfer of user data, wherein the control plane equipment controls the transfer of signaling between a core network and the mobile terminal unit so that the signaling is not transferred through the user plane equipment, and

wherein the mobile terminal unit is handed over from the first radio base station to a second radio base station, controlled by a drift radio controller, without establishing a path between the radio controller and the drift radio controller.

53. (previously presented): A mobile communication system, comprising:

a first radio controller which controls a first radio base station in communication with a mobile terminal unit via a radio channel, the first radio controller being physically separated into first control plane equipment for performing control independent of a radio transmission scheme and first user plane equipment for performing control depending on a radio transmission scheme, between a first network and the mobile terminal unit; and

a second radio controller which controls a second radio base station and is physically separated into second control plane equipment which performs control independent of the radio transmission scheme and second user plane equipment which performs control dependent on the radio transmission scheme,

wherein the first control plane equipment and the first user plane equipment are adapted to be connected across a second network,

wherein the mobile terminal unit is handed over from the first radio base station to the second radio base station, without establishing a path between the first radio controller and the second radio controller and wherein the second control plane equipment performs control

independent of the radio transmission scheme and second user plane equipment performs control dependent on the radio transmission scheme between the first network and the mobile terminal after a handover.

54. (previously presented): A mobile communication systems comprising:

a radio controller which controls a radio base station in communication with a mobile terminal unit via a radio channel, the radio controller being physically separated into control plane equipment for controlling transfer of signaling and user plane equipment for controlling transfer of user data, said user plane equipment performing control depending on a radio transmission scheme, wherein the control plane equipment controls the transfer of signaling from a core network to the mobile terminal unit so that the signaling is not transferred through the user plane equipment; and

a radio base station replacement control apparatus provided physically independently of the control plane equipment and the user plane equipment, which radio base station replacement control apparatus controls replacement of said radio base station with other radio base stations being controlled by the radio controller or by other radio controllers.

55. (previously presented): A mobile communication system, comprising:

a radio controller which controls a radio base station in communication with a mobile terminal unit via a radio channel, the radio controller being physically separated into control plane equipment for controlling a terminal resource of said mobile terminal unit and user plane equipment for accommodating said radio base station and controlling a base station resource of said radio base station,

wherein the user plane equipment is incorporated into the radio base station, wherein replacement of said radio base station with another radio base station is controlled by a user data selector and synthesizer unit incorporated into the radio base station.